

N in the benzimidazole inchety means that one of the ring carbon atoms substituted by R6-R9 optionally may be exchanged for a nitrogen atom without any substituents;

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R₁, R₂ and R₃ are the same or different and selected from the group consisting of hydrogen, alkyl, alkoxy, fluorine-substituted alkoxy [optionally substituted by fluorine], alkylthio, alkoxyalkoxy, dialkylamino, piperidino, morpholino, halogen, phenylalkoxy;

R4 and R5 are the same or different and selected from the group consisting of hydrogen, alkyl and aralkyl;

R6' is hydrogen, halogen, trifluoromethyl, alkyl and alkoxy;

R6-R9 are the same or different and selected from the group consisting of hydrogen, alkyl, alkoxy, halogen, halo-alkoxy, alkylcarbonyl, alkoxycarbonyl, oxazolyl, trifluoroalkyl, or adjacent groups R₆-R₉ form ring structures which may be further substituted;

R₁₀ is hydrogen or forms an alkylene chain together with R₃; and

RII and Riz are the same or different and selected from the group consisting of hydrogen, haloger or alkyl.

- 2 (Amended) The [An] administration regimen according to claim 1, wherein [characterized in that] the H⁺, K⁺-ATPase inhibitor is a compound selected from the group consisting of omeprazole, an alkaline salt of omeprazole, the (-)-enantiomer of omeprazole and an alkaline salt of the (-)-enantiomer of omeprazole.
- 3. (Amended) The [An] administration regimen [giving an extended blood plasma profile of a H, K-ATPase inhibitor] according to claim 1 or 2 wherein [any of claims 1 and 2 characterized

in that] the extended plasma profile is obtained by two or more consecutive oral administrations of a unit dose of the H⁺, K⁺-ATPase inhibitor with 0.5 - 4 hours intervals.

- 4. (Amended) The [An] administration regimen [giving an extended blood plasma profile of a H, K, -ATPase inhibitor] according to claim 1, wherein [characterized in that] the extended plasma profile is obtained by oral administration of the [a unit dose of a] pharmaceutical formulation [preparation] which releases the H+ K+ATPase inhibitor [drug] for absorption in two or more discrete pulses separated in time by 0.5 - 4 hours.
- 5. (Amended) The [An] administration regimen according to claim 1, wherein [characterized in that] the extended plasma profile is obtained by oral administration of the [a unit dose of a] pharmaceutical formulation [preparation] which releases the H⁺, K⁺-ATPase inhibitor for absorption with an almost constant rate during an extended time period.
- 6. (Amended) The [An] administration regimen according to any of claims 1 5, wherein [characterized in that] the extended plasma profile is maintained for [received during] 2 - 12 hours.
- 7. (Amended) An oral pharmaceutical formulation comprising an H', K⁺-ATPase inhibitor and a pharmaceutically acceptable carrier, wherein the formulation induces [composition giving] an extended blood plasma profile of the [a] H+, K+-ATPase inhibitor and [, characterized in that] the II+, K+-ATPase inhibitor is a compound of [with] the formula I

wherein

Het_
$$X$$
- S -Het_ Z

Wherein

 R_1
 R_2
 R_3

or

 R_6
 R_7
 R_8

or

 R_8
 $R_$

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N in the benzimidazole moiety means that one of the ring carbon atoms substituted by R6-R9 optionally may be exchanged for a nitrogen atom without any substituents;

R₁, R₂ and R₃ are the same or different and selected from the group consisting of hydrogen, alkyl, alkoxy, fluorine-substituted alkoxy [optionally substituted by fluorine], alkylthio, alkoxyalkoxy, dialkylamino, piperidino, morpholino, halogen, phenyl and phenylalkoxy;

R4 and R5 are the same or different and selected from the group consisting of hydrogen, alkyl and aralkyl;

R6' is selected from the group consisting of hydrogen, halogen, trifluoromethyl, alkyl and alkoxy,

R6-R9 are the same or different and selected from the group consisting of hydrogen, alkyl, alkoxy, halogen, halo-alkoxy, alkylcarbonyl, alkoxycarbonyl, oxazolyl, trifluoroalkyl, or adjacent groups R₆-R₉ form ring structures which may be further substituted;

R₁₀ is hydrogen or forms an alkylene chain together with R₃; and

R₁₁ and R₁₂ are the same or different and selected from the group consisting of hydrogen, helogen or alkyl.

8. (Amended) The [An] oral pharmaceutical formulation [preparation] according to claim 7, wherein [characterized in that] the H+, K+-ATPase inhibitor is a compound selected from the group consisting of omeprazole, an alkaline salt of omeprazole, the (-)-enantiomer of omeprazole and an alkaline salt of the (-)-enantiomer of omeprazole.



9. (Amended) The [An] oral pharmaceutical formulation [preparation giving an extended blood plasma profile of a H+, K+-ATPase inhibitor] according to claim 7, wherein [characterized in that] the pharmaccutical formulation [preparation] releases the H+, K+-ATPase inhibitor [drug] for absorption in two or more discrete pulses separated in time by 0.5 - 4 hours.

0. (Amended) The [An] oral pharmaceutical formulation [preparation] according to claim 7, wherein [characterized in that] the pharmaceutical formulation [preparation] releases the H⁺, K⁺-ATPase inhibitor for absorption with an almost constant rate during an extended time period.

11. (Amended) The [An] oral pharmaceutical formulation [preparation giving an extended blood plasma profile of a H+, K+-ATPase inhibitor according to any of claims 7 - 10, wherein [characterized in that] the extended plasma profile is maintained for [received during] 2-12 hours.

15. (Amended) A method for improving inhibition of gastric acid secretion comprising [which comprises] administering to a patient in need thereof[, an] the oral pharmaceutical formulation [composition] as claimed in any of claims 7 - 10.

16. (Amended) A method for improving the [therapeutic effect in the] treatment of gastrointestinal disorders associated with excess acid secretion comprising [which comprises] administering to a patient in need thereof[, an] the oral pharmaceutical formulation [composition] as claimed in any claims 7 - 10.

Add new claims 18 and 19:

18 An administration regimen for improved inhibiton of gastric acid secretion characterized by an extended blood plasma profile of an H⁺, K⁺-ATPase inhibitor, comprising the oral administration of a pharmaceutical formulation comprising a therapeutically effective amount of the H⁺, K⁺-ATPase inhibitor having the formula I

wherein

Het_l is

Het2 is

$$R_1$$
 R_3 or

X =

R'6

ĭ

οr

-9-

OT

wherein

N in the benzimidazole moiety means that one of the ring parbon atoms substituted by R6-R9 optionally may be exchanged for a nitrogen atom without any substituents;

R₁, R₂ and R₃ are the same or different and selected from the group consisting of hydrogen, alkyl, alkoxy, fluorinc-substituted alkoxy, alkylthio, alkoxyalkoxy, dialkylamino, piperidino, morpholino, halogen, phenyl and phenylalkoxy;

R4 and R5 are the same or different and selected from the group consisting of hydrogen, alkyl and aralkyl;

R6' is hydrogen, halogen, trifluoromethyl, alkyl and alkoxy;

R6-R9 are the same or different and selected from the group consisting of hydrogen, alkyl, alkoxy, halogen, halo-alkoxy, alkylcarbonyl, alkoxycarbonyl, oxazolyl, trifluoroalkyl, or adjacent groups R6-R9 form ring structures which may be further substituted;

R₁₀ is hydrogen or forms an alkylehe chain together with R_{3;} and

R₁₁ and R₁₂ are the same or different and selected from the group consisting of hydrogen, halogen or alkyl,

with the proviso that the H / K -ATPase inhibitor is not pantoprazole.

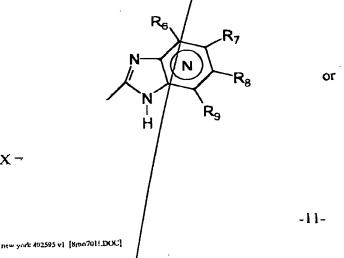
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19. An oral pharmaceutical formulation comprising an H, K-ATPase inhibitor and a pharmaceutically acceptable carrier, wherein the formulation induc s an extended blood plasma profile of the H⁺, K⁺-ATPase inhibitor and the H⁺, K⁺-ATPase inhibitor is a compound of the formula I

wherein

$$R_1$$
 R_2 R_3 or

χ÷



—CH— | or |R₁₀

wherein

N in the benzimidazole moiety means that one of the ring carbon atoms substituted by R₆-R₉ optionally may be exchanged for a nitrogen atom without any substituents;

R₁, R₂ and R₃ are the same or different and selected from the group consisting of hydrogen, alkyl, alkoxy, fluorine-substituted alkoxy, alkylthio, alkoxyalkoxy, dialkylamino, piperidino, morpholino, halogen, phenyl and phenylalkoxy;

R₄ and R₅ are the same or different and selected from the group consisting of hydrogen, alkyl and aralkyl;

R6' is selected from the group consisting of hydrogen, halogen, trifluoromethyl, alkyl and alkoxy;

R₆-R₉ are the same or different and selected from the group consisting of hydrogen, alkyl, alkoxy, halogen, halo-alkoxy, alkylcarbonyl, alkoxycarbonyl, oxazolyl, trifluoroalkyl, or adjacent groups R₆-R₉ form ring structures which may be further substituted;

R₁₀ is hydrogen of forms an alkylene chain together with R₃; and

 R_{11} and R_{12} are the same or different and selected from the group consisting of hydrogen, halogen or alkyl,

with the proviso that the H⁺, K⁺-ATPase inhibitor is not pantoprazole.